

50
A1

102 61423465

1. A method of modifying a thermal barrier assembly comprising a channel, said method comprising:

5 and

exposing a surface of said channel to a plasma comprising metal moieties;

150

depositing said metal moieties on the surface of said channel.

Sub B3/p2

2. The method of claim 1, wherein said channel comprises a surface treatment prior to said depositing step, said method further comprising removing at least a portion of 10 said surface treatment from said channel.

152

3. The method of claim 1, wherein said metal is selected from the group consisting of aluminum, nickel, chromium, iron, graphite, molybdenum, copper, cobalt, tungsten, indium, manganese, zirconium, zinc, cesium, yttrium, antimony, and oxides, carbides, nitrides and silicides thereof, and alloys and mixtures thereof.

103, 11, 12, 13, 16, 17, 37

4. The method of claim 1, wherein said thermal barrier assembly comprises a structure selected from the group consisting of a window casing, door casing and curtain wall.

20

Sub B3/b2. The method of claim 1, wherein said depositing comprises forming a metal coating on the surface of said channel.

126ppr

6. The method of claim 1, wherein said coating has a thickness of no greater than about 2 mm.

102 8, 12 24, 37

7. The method of claim 1, wherein said channel is defined by a substrate comprising metal.

102 per ref as 12 23, 34

30 8. The method of claim 7, wherein said metal is aluminum.

107 inturhly

Sub 3 9. The method of claim 1, wherein said channel is defined by a substrate comprising a polymer.

107 desp

5 10. The method of claim 1, wherein said channel comprises a first side wall, a second side wall positioned parallel to said first side wall and spaced no greater than about 2.5 cm from said first side wall.

107 mdt dng

10 11. The method of claim 1, wherein said thermal barrier assembly comprises a window casing.

107 do vvvv

12. The method of claim 1, wherein said thermal barrier assembly comprises a door casing.

102

13. A thermal barrier assembly comprising:

15 a channel comprising a layer of metal bonded to a surface of said channel, said metal having been deposited onto said channel surface from a plasma.

Sub 3 *107*

14. The thermal barrier assembly of claim 13, further comprising an adhesive composition bonded to the modified surface of said channel.

102

20 15. The thermal barrier assembly of claim 14, wherein said adhesive composition comprises polyurethane.

X

25 16. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits no greater than 5 % shrinkage when bonded to said surface and subjected to the % Shrinkage Test Method.

X

30 17. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits no greater than 1% shrinkage when bonded to said surface and subjected to the % Shrinkage Test Method.

SB 3 18. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits a shear strength of at least 2500 psi shear strength at room temperature after being subjected to the Thermal Cycling Method.

5 19. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits a shear strength of at least 3000 psi at room temperature after being subjected to the Thermal Cycling Method.

10 20. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits a shear strength of at least 7500 psi at room temperature after being subjected to the Thermal Cycling Method.

15 21. The thermal barrier assembly of claim 13, wherein said metal is selected from the group consisting of aluminum, nickel, chromium, iron, graphite, molybdenum, copper, cobalt, tungsten, indium, manganese, zirconium, zinc, cesium, yttrium, antimony, and oxides, carbides, nitrides and silicides thereof, and alloys and mixtures thereof.

20 22. The thermal barrier assembly of claim 13, wherein said channel is defined by a substrate comprising metal.

20 23. The thermal barrier assembly of claim 22, wherein said metal comprises aluminum.

25 24. The thermal barrier assembly of claim 13, wherein said channel is defined by a substrate comprising a polymer.

25 25. A window casing comprising the thermal barrier assembly of claim 15.

30 26. A door casing comprising the thermal barrier assembly of claim 15.

27. A process for making a thermal barrier assembly, said process comprising:

*AM
cont*

~~exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties; and
depositing said metal moieties on the surface of said channel.~~

5 *Sb B37* 28. The process of claim 27, further comprising contacting the metal surface of said channel with an adhesive ¹⁶ composition.

10 29. The process of claim 27, wherein prior to said depositing, said channel comprises a surface treatment disposed on the channel surface, said process further comprising removing at least a portion of said surface treatment prior to depositing said metal moieties.

15 30. The process of claim 27, wherein said metal is selected from the group consisting of aluminum, nickel, chromium, iron, graphite, molybdenum, copper, cobalt, tungsten, indium, manganese, zirconium, zinc, cesium, yttrium, antimony, and oxides, carbides, nitrides and silicides thereof, and alloys and mixtures thereof.

20 31. The process of claim 28, wherein said adhesive composition comprises polyurethane.

25 *X* 32. The process of claim 27, wherein said surface treatment is selected from the group consisting of polyester, melamine, mill finish, conversion coating, primer, paint, acrylic, polyester, enamel, polyurethane, fluoropolymer, anodic finishes and combinations thereof.

30 33. The process of claim 27, wherein said channel is defined by a substrate comprising metal.

1,7 put not
34. The process of claim 33, wherein said metal comprises aluminum.

App n 24

35. The process of claim 27, wherein said channel is defined by a substrate comprising a polymer.

*cont
B3*

36. A process for making a window casing comprising the process of claim 27.

5

37. A process for making a door casing comprising the process of claim 27.

*APR 5
Add Cl 1*

SEARCHED - SERIALIZED